

REMARKS

Initially, applicant would like to thank the Examiner for the helpful and courteous telephonic interview conducted with applicant on or around 15 February 2006. In such interview, applicant explained what he believes to be basic differences between the claimed invention and the references applied in the Office Action, the Examiner indicated that applicant should submit a written response to the Office Action similarly explaining these.

Currently, claims 1-15 are under consideration in the application, of which claim 1 is independent. Claims 16-20 have been withdrawn from consideration without prejudice or abandonment of the subject matter therein.

After careful consideration of the rejection set forth in the Office Action, applicant respectfully traverses the same, and submits that present claims 1-15 patentably distinguish over the art of record, as discussed further below.

Claim Rejections – 35 USC §103

The Examiner has rejected claims 1-15 are rejected under 35 USC 103(a) as being unpatentable over GB 1366631 in view of Rittenhouse (USPN 67019027). Regarding claim 1, it is the Examiner's position that: GB 1366631 (GB '631) teaches the basic claimed process including a method of making a heat transfer device including each of the steps as disclosed in applicants invention; but GB '631 does not teach arranging the tubing while it is in a substantially uncured state and curing the arranged tubing so as to join adjacent portions of the tubing; Rittenhouse teaches the well-known understanding of bonding partially cured tubing together by curing produces a bond of increased mechanical integrity of the connection (col. 4, Ins 47-56); and correspondingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the above teaching of Rittenhouse in the process of GB

'631 in order to increase the mechanical integrity of the bond between the tubing of GB '631. In regards to the claim 2-15, which depend from claim 1, it is the Examiner's position that all of the features recited therein are well known in the art, or would have been obvious based upon the combination of GB '631 and Rittenhouse.

Applicant's Response

Upon careful consideration applicant respectfully traverses the Examiner's rejection and submits that claims 1 -15 are clearly patentably distinct over the applied references, whether considered singularly or in combination, because the neither GB '631 nor Rittenhouse teach or suggest the heat transfer manufacturing method as defined in claims 1-15.

Relative to independent claim 1, for example, GB 136631 does not disclose the prearrangement of tubing formed of a curable material and into a given shape while in an uncured state, and wherein the bonding of engaged portions of the tubing is simply achieved through curing of the shaped tubing material. The Examiner has conceded this.

Rather, GB '631 discloses manufacturing processes for a press-fit insertion assembly, which involves use of a bonding agent, e.g., two silicone rubber tubes are *cemented* together (pg. 1 lines 83-84). This is directly contrary to applicant's claimed invention in which the uncured tubing portions are simply bonded-joined together via the curing process. In other words, without the use of any additional bonding agent or cement. Nowhere in the disclosure of GB '631 is there mention of the tubing being in an uncured state.

On the other hand, Rittenhouse discloses a method of a press-fitting a length of tubing into a connector in order to create a fluid tight seal (col. 2, lines 34-36). Such compression type molding is impractical when dealing with uncured plastic tubing, e.g., it would cause the tubing to collapse. Thus, applicant respectfully submits that Rittenhouse does not disclose the molding

of uncured tubing in order to create his fluid tight seal, contrary to the Examiner's allegation.

Like GB '631, the method of Rittenhouse also involves use of a bonding agent to increase the strength of the fluid seal and mechanical integrity of the connection between the tubing and the connector. As discussed above in connection with GB '631, applicant's invention achieves joining-bonding of the adjacent sections of the tubing *without* the use of any bonding agents or cement.

Thus, it is respectfully submitted that Rittenhouse clearly does not overcome the deficiencies discussed above with regards to GB '631. Correspondingly, persons of ordinary skill in the art would not consider it obvious to hypothetically modify the method of GB '631 in the manner proposed by the Examiner, because the references provide no motivation for such a modification.

Still further, applicant respectfully submits that the applied references fail to disclose or suggest additional features set forth in dependent claims 2-15, which achieve desirable advantages in the art. For example, neither reference teaches or suggests: the formation of the uncured tubing onto a mold as defined in claim 2, that a curing process cross-links engaged portions of the tubing as defined in claim 5, the application of force or pressure, either to the internal or the external surfaces of the tubing, in order to increase the linear surface contact of the tubing, as defined in claims 6, 7, 12-14, etc.

It is noted that, in rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. See *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A *prima facie* case of obviousness is established by presenting evidence that the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed combination or

other modification. See *In re Lintner*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Furthermore, the conclusion that the claimed subject matter is *prima facie* obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. See *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Rejections based on § 103 must rest on a factual basis, with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. See *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968).

In this regard, applicant respectfully traverses the Examiner assertion that the application of pressure to increase the surface contact of the tubing is well-known in the molding art, and thus obvious to modify the disclosure of GB '631 in order to make applicant's invention obvious because this allegation is not supported by any evidence of record.

Based on the foregoing, the rejection of claims 1-15 as being obvious over GB '631 in view of Rittenhouse is believed to be overcome, and it is respectfully requested that the rejection be reconsidered and withdrawn.

Other Matters

Applicant has considered the additional reference cited by the Examiner at item 5 of the Office Action, Giglio et al. US 4,239,245, and Woinowski US 4,277,432, but it is respectfully submitted that these additional references fail to overcome the deficiencies of GB '631 and Rittenhouse relative to the claimed invention as discussed above.

Conclusion

Based on all of the foregoing, applicant respectfully submits that the rejections set forth in the Office Action are overcome, and that as presently amended, all of claims 1-15 are believed to be allowable over all of the references of record, whether considered singly or in combination.

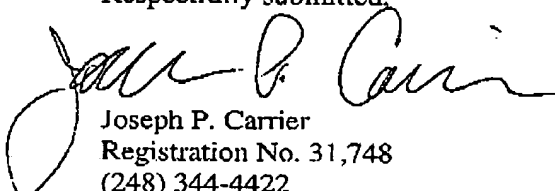
Applicant requests reconsideration and withdrawal of the rejection of record, and allowance of the pending claims. The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner is not fully convinced of all of the claims now in the application, applicant respectfully requests that the Examiner telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable consideration is respectfully requested.

Respectfully submitted,

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